


REMARKS

The purpose of this Preliminary Amendment is to correct the title of the application as established in the International Search Report dated 27 July 2000; to insert a priority claim into the application; and to remove existing multiple dependencies from the claims.

Favorable consideration leading to prompt allowance of the present application is respectfully requested.

Respectfully submitted,
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Enclosure: Marked up draft showing amendments to claims.

3. (Amended) A nucleic acid as claimed in claim 1 [or claim 2] which comprises an FRI nucleotide sequence which encodes the polypeptide of Fig 6.

7. (Amended) A nucleic acid as claimed in claim 5 [or claim 6] wherein the variant sequence is an FRI allele.

8. (Amended) A nucleic acid as claimed in claim 5 [or claim 6] wherein the variant sequence is an FRI orthologue obtainable from a plant species other than *Arabidopsis thaliana*.

9. (Amended) A nucleic acid as claimed in claim 5 [or claim 6] wherein the variant sequence is a derivative of the FRI nucleotide sequence [of claim 4] selected from the group consisting of any of:

(i) the sequence of Fig 4;

(ii) the sequence of Fig 5;

(iii) bases 362-2188 inclusive of Fig 5;

or is degeneratively equivalent to any of these. by way of one or more of addition, insertion, deletion or substitution of the FRI nucleotide sequence by way of one or more of addition, insertion, deletion, or substitution of the FRI nucleotide sequence.

10. (Amended) An isolated nucleic acid which comprises a sequence which the complement of the FRI or variant nucleotide sequence of [any one of] claim 1 [to 9].

12. (Amended) A process for producing a nucleic acid as claimed in claim 9 which process comprises the step of modifying a FRI nucleotide sequence [of claim 4]selected from the group consisting of any of:

(i) the sequence of Fig 4;

(ii) the sequence of Fig 5;
(iii) bases 362-2188 inclusive of Fig 5;
or is degeneratively equivalent to any of these. by way of
one or more of addition, insertion, deletion or substitution
of the FRI nucleotide sequence.

13. (Amended) A method for identifying or cloning a nucleic acid [as claimed in any of claims 1 to 10,] obtainable from the FRI locus of a plant, which nucleic acid encodes a polypeptide which is capable of specifically altering the flowering time of a plant into which the nucleic acid is introduced, which method employs a probe or primer of claim 11.

14. (Amended) A method for determining the presence of a nucleic acid [as claimed in any of claims 1 to 10] obtainable from the FRI locus of a plant, which nucleic acid encodes a polypeptide which is capable of specifically altering the flowering time of a plant into which the nucleic acid is introduced within the genetic context of a plant, which method employs a probe or primer of claim 11.

15. (Amended) A method as claimed in [claim 13 or] claim 14, which method comprises the steps of:

(a) providing a preparation of nucleic acid from a plant cell;

(b) providing a nucleic acid molecule which is a probe or primer, said nucleic acid having a sequence of at least about 16-24 nucleotides in length, which sequence is present in either the FRI nucleotide sequence or a complement thereof selected from the group consisting of any of:

(i) the sequence of Fig 4;

(ii) the sequence of Fig 5;

(iii) bases 362-2188 inclusive of Fig 5;

or is degeneratively equivalent to any of these [of claim 11,]

(c) contacting nucleic acid in said preparation with said nucleic acid molecule under conditions for hybridisation, and,

(d) identifying a nucleic acid variant if present by its hybridisation with said nucleic acid molecule.

16. (Amended) A method as claimed in [claim 13 or] claim 14, which method comprises the steps of:

(a) providing a preparation of nucleic acid from a plant cell;

(b) providing a pair of nucleic acid molecule primers suitable for PCR, at least one of said primers being a primer ,said primer having a sequence of at least about 16-24 nucleotides in length, which sequence is present in either the FRI nucleotide sequence or a complement thereof and selected from the group consisting of any of:

(i) the sequence of Fig 4;

(ii) the sequence of Fig 5;

(iii) bases 362-2188 inclusive of Fig 5;

or is degeneratively equivalent to any of these [of claim 11,]

(c) contacting nucleic acid in said preparation with said primers under conditions for performance of PCR,

(d) performing PCR and determining the presence or absence of an amplified PCR product.

18. (Amended) A recombinant vector which comprises the nucleic acid of [any one of] claim[s] 1 [to 10].

19. (Amended) A vector as claimed in claim 18 wherein the nucleic acid comprised in the vector is further capable of modulating VRN2 and/or FLC expression in a plant in which the nucleic acid is transcribed.

20. (Amended) A vector as claimed in claim 18 [or claim 19] wherein the nucleic acid is operably linked to a promoter

for transcription in a host cell, wherein the promoter is optionally an inducible promoter.

21. (Amended) A vector as claimed in [any one of] claim[s] 18 [to 20] which is a plant vector.

22. (Amended) A method which comprises the step of introducing the vector of [any one of] claim[s] 18 [to 21] into a host cell, and optionally causing or allowing recombination between the vector and the host cell genome such as to transform the host cell.

23. (Amended) A host cell containing or transformed with a heterologous nucleic acid of [any one of] claim[s] 1 [to 10].

26. (Amended) A transgenic plant which is obtainable by the method of claim 25, or which is a clone, or selfed or hybrid progeny or other descendant of said transgenic plant, which in each case includes the plant cell containing or transformed with a heterologous nucleic acid obtainable from the FRI locus of a plant, which nucleic acid encodes a polypeptide which is capable of specifically altering the flowering time of a plant into which the nucleic acid is introduced [of claim 24].

27. (Amended) A plant as claimed in claim 26 which is selected from the [list] group consisting of: sugar beet; a Brassica such as cauliflower, broccoli, cabbage, spinach, curly kale, *B. Napus*; potato; lettuce; a culinary herb.

28. (Amended) A part of propagule from a plant as claimed in claim 26 [or claim 27, which in either case includes the plant cell of claim 24].

29. (Amended) An isolated polypeptide which is encoded by the FRI nucleotide sequence [of any one] of claim[s] 1 [to

FOI b7E b7F b7G b7H b7I b7J b7K b7L b7M b7N b7O b7P b7Q b7R b7S b7T b7U b7V b7W b7X b7Y b7Z

9].

31. (Amended) A polypeptide as claimed in claim 29 which is a fragment of the polypeptide in Figure 6 [of claim 30].

32. (Amended) A method of making the polypeptide of [any one of] claim[s] 29 [to 31], which method comprises the step of causing or allowing expression from a nucleic acid [of any one of claims 1 to 9] obtainable from the FRI locus of a plant, which nucleic acid encodes a polypeptide which is capable of specifically altering the flowering time of a plant into which the nucleic acid is introduced in a suitable host cell.

34. (Amended) A polypeptide which comprises the antigen-binding site of the antibody of claim [34] 33.

35. (Amended) A method for influencing or affecting flowering time in a plant, which method comprises the step of causing or allowing expression of a nucleic acid [as claimed in any one of claims 1 to 10] obtainable from the FRI locus of a plant, which nucleic acid encodes a polypeptide which is capable of specifically altering the flowering time of a plant into which the nucleic acid is introduced within the cells of the plant, following an earlier step of introducing the nucleic acid into a cell of the plant or an ancestor thereof.

36. (Amended) A method as claimed in claim 35 for delaying flowering time in a plant, wherein the nucleic acid [is a nucleic acid as claimed in any one of claims 2 to 9] which comprises an FRI nucleotide sequence which encodes the polypeptide of Fig. 6.

37. (Amended) A method as claimed in claim 35 for accelerating flowering time in a plant, which method

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comprises any of the following steps of:

- (i) causing or allowing transcription from a nucleic acid obtainable from the FRI locus of a plant, which nucleic acid encodes a polypeptide which is capable of specifically altering the flowering time of a plant into which the nucleic acid is introduced [as claimed in claim 10] in the plant such as to reduce FRI expression by an antisense mechanism;
- (ii) causing or allowing transcription from a nucleic acid which is capable of delaying the flowering time and thereby extending a vegetative phase in the plant [as claimed in any one of claims 2 to 9] or a part thereof such as to reduce FRI expression by co-suppression;
- (iii) use of nucleic acid encoding a ribozyme specific for a nucleic acid obtainable from the FRI locus of a plant, which nucleic acid encodes a polypeptide which is capable of specifically altering the flowering time of a plant into which the nucleic acid is introduced [as claimed in any one of claims 2 to 9].

39. (Amended) A method as claimed in [any one of] claim[s] 35 [to 38] which further comprises use of a nucleic acid capable of modulating VRN2 expression or FLC expression.

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